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ABSTRACT

A course syllabus and descriptive outline are provided for an introductory, three-credit college course at Lon Morris College, Jacksonville, Texas, covering logical operations and the development of basic algorithmic processes using the BASIC computer programming language. Overall goals, specific objectives, and a brief description of lesson content, enabling activities, and resource materials are included for the lessons in three units. The individual units cover: (1) computer vocabulary, computer history, and computer design; (2) system operation, beginning BASIC programming, and computer careers; and (3) home computer uses, computer applications, and software usage. The course is intended to provide an introduction to computers for all noncomputer science majors at Lon Morris College and is structured so that students have the opportunity to relate computers to their own interests. (LMM)

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Computer Literacy 113

By Vanessa Huse

Fall 1984

Catalogue Description

Three Semester Hours Credit

An introductory course covering logical operation and development of basic algorithmic processes using the BASIC language. Topics will include computer history, system design, social impact, and computer application in all subject areas.

Course Goals

- 1) The student will develop an indepth understanding of:
 - a) Computer Terminology
 - b) Computer History
 - c) The inter workings of a computer
- 2) The student will be able to compare various computers and make an analysis of different systems.
- 3) The student will have an understanding of:
 - a) How a computer can be used in the home.
 - b) The careers available in the computer field.
 - c) The various computer applications in our world and their changing role.
- 4) The student will be able to demonstrate the ability to use prewritten software.
- 5) The student will be able to write and run simple basic programs.

Target Population

The course is intended for all non-computer science majors to give them an introduction to computers. The course is structured so that the student has the opportunity to relate computers to their own interest.

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Student Information

Textbooks and Materials

- 1) The Mind Tools, 3rd edition, West Publishing
- 2) 8" Disk

Purpose

To give some hands on experiences with microcomputers and to teach the fundamentals of problem solving from the standpoint of programming computers.

Attendance

Attendance is strongly encouraged for your own benefit. Any work missed due to your absences is your responsibility

and should be made up as soon as possible. If you miss a lecture, you should get a copy of someone's notes. Anyone having an absence or tardy cannot be exempt from the final. If a major test is missed, all makeups are oral.

Cheating

Provable cases of cheating will earn an "F" in the class for the semester.

Your semester grade will be broken down in the following manner:

40% - Hour Exams - there will be four hour exams
20% - Programs - you will be required to complete five to eight major programs. Late programs will be handled in the following manner:

Loss of ten points for each day late (not including weekends or holidays) up to one week late, after which you will receive no credit. Note - any program which is not turned in by the end of the semester in a form showing reasonable effort will cost two points from your programming average.

10% - Final Exam - Comprehension exam administered at the end of the semester

10% - Research Paper

5% - Comparative Analysis

5% - Debate

5% - Software Use

5% - Homework - Class assignments excluding programs. May include pop-quizzes

Grading Scale

90 - 100%	A
80 - 89%	B
70 - 79%	C
60 - 69%	D
0 - 59%	F

Proposed Course Outline

<u>Week</u>	<u>Subject</u>
1- 3	Computer Vocabulary, History, Design
4- 6	Beginning Basic
7-10	Computer Applications
11-14	Programming Concepts
15-16	Predesigned Software
17	Final Exam

Assessment of all Objectives

The objectives for all units will be measured through test instruments, worksheets, and/or executed problems listing assignments. All objectives must be completed as scheduled and will be evaluated by course grading standards.

UNIT I

Computer Vocabulary

Computer History

Computer Design

UNIT I

Computer Vocabulary, History, and Design

Goal 1

The student will develop an understanding of general computer design, development, and vocabulary.

Objective 1.1

The student will be able to define computer related terms with eighty percent accuracy.

Content Description	* Enabling Activities *	* Instructional Resource
*****	*****	*****
List of acronyms	* The students will:	* Resource Material:
	*	*
General Vocabulary Words	* 1) Read assigned text	* Computer Vocabulary
	*	* Computer Dictionary
	* 2) Identify acronyms list	* Glossary in Text
	*	* Library Journals
	* 3) Identify vocabulary words	* Teacher Information:
	*	* Two handouts
	* 4) Find and bring to class, computer related advertisements	*
	*	*

The student will identify the historical development of computers with 80% accuracy.

Objective 1.3

The student will be able to analyze the effects computers have on our world today.

CONTENT DESCRIPTION* ENABLING ACTIVITIES *INSTRUCTIONAL RESOURCES

Computer History	*	*
	* The student will:	* Resource Material:
	* 1) Identify impor-	* - CAI program of Com-
	* tant people in	* puter History.
	* the history of	* - Library Journals
	* Computer Science.	* Teacher Information
	*	*
	* 2) Identify the	* Film - Adventures of the
	* sequences of his-	* Mind
	* tory events lead-	*
	* ing to the fifth	*
	* generation of	*
	* computers.	*
	*	*
	* 3) Read assigned	*
	* text.	*
	*	*
	* 4) Write one page	*
	* analysis of the	*
	* effects of com-	*
	* puters on their	*
	* world.	*
	*	*

Objective 1.4

The student will discuss the computer hardware development and terminology with 90% accuracy.

Objective 1.5

The student will be able to define with eighty percent accuracy computer hardware vocabulary words.

Content Description	*Enabling Activities*	Instructional Resources
Computer Hardware Vocabulary	* The student will: * 1) Read assigned text * 2) Define list of hardware vocabulary words * 3) Name five input devices * 4) Name five output devices * 5) List all parts of any computer system	* Resource Material: * - Computer Glossary * - Computer Vocabulary * Teacher Information: * - Swift Show & Tell Package * - Simulated Computer

The student will be able to add and subtract using the binary code with eighty percent accuracy.

Objective 1.7

The student will be able to read and convert ASCII codes with eighty percent accuracy.

Content Description	*Enabling Activities*	Instructional Resources
Binary Coding	* The student will:	* Resource Material:
ASCII Codes	* 1) Read assigned text	* - Print-outs from TI
	* 2) Work handout on binary arithmetic	* Teacher Information:
	* 3) Work assigned problems in text	* - Handout
		* - Film "Binary Coding Charts of ASCII Codes"

Unit 11

System Operation
Beginning Programming
Computer Careers

Goal II The student will have an understanding of primary system command, concepts in beginning basic, and careers in the computing field.

Objective 2.1

The student will demonstrate the ability to get on and off the computer system without crashing the machinery.

Objective 2.2

The student will identify the system commands with eighty percent accuracy.

Content Description *Enabling Activities* Instructional Resources

System Command	*	*
Operating System	* The student will:	* Resources Materials:
	*	*
	* 1) Demonstrate	* - Operating Manual
	* ability to get	*
System Commands	* on and off com-	*
	* puter systems	*
	*	* Teacher Information:
	* 2) Read assigned	*
	* text	* - Interaction computer
	*	* programs
	* 3) Work through	*
	* assigned prog-	* - Overhead projects
	* rams with a	*
	* partner	* - Example program
	*	*
	*	*

The student will be able to design a flow chart from an given problem with 90% accuracy.

Content Description	*Enabling Activities*	Instructional Resources
*****	*****	*****
Problem Solving Techniques	* The student will:	* Reference Material:
	* 1) Read assigned text	* - Library Resources
		* - Example Problems
Steps to Problem Solving	* 2) Be able to list the five steps for problem solving	
		* Teacher Information:
Flowchart Symbols	* 3) Flowchart five problems assigned in class	* - Handout
	* 4) identify flowchart symbols	* - Film "Flowcharting"
	*	*
	*	*

The student will be able to differentiate between read/data, input and assignment statements.

The student will be able to modify programs to use various input methods.

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The student will be able to define computer software vocabulary with eight percent accuracy.

Content Description	*Enabling Activities*	Instructional Resources
*****	*****	*****

Software Vocabulary	* The student will:	* Resources Material:
	* 1) Read assigned text	* - Computer Dictionary
	* 2) Answer handout	* - Computer Glossary
	* 3) Work question in test	* Teacher Information:
	* 4) Work crossrow word puzzles	* - Handout
		* - Software examples

various loop structures, Goto, If then, and For-Next.

Objective 2.7: The student will be able to determine the proper looping structure needed for any given problem.

Content Description *Enabling Activities* Instructional Resources

	* The student will:	* Reference Material:
	* *	* *
Goto	* 1) Read assigned text	* Program examples
	* *	* *
If-Then	* 2) Identify the logical operators used in conditional loops.	* *
	* *	* *
For-Next	* 3) Work problem where they must decide what looping procedure should be used	* *
	* *	* Teacher Information:
	* *	* Handout
	* *	* *

Objective: 2.8

The student will be able to analysis flowcharts and determine their results with eight percent accuracy.

Objective: 2.9

The student will be able to create workable code from any given flowcharts.

Content Description *Enabling Activities *Instructional Resources

Tracing flowcharts	* The student will:	* Reference Material:
	* 1)Trace through	* Program Example
	* several given	
	* flowcharts to	
Basic coding	* determine the	
	* output.	
	* 2) Code in Basic	
	* any given flowchart	
		* Teacher Information:
		* Flowchart
		* Samples

The student will be able to identify errors in any given Basic program with eight percent accuracy.

Objective: 2.11

The student will be able to correct errors in any given Basic program with eight percent accuracy.

Content Description *Enabling Activities *Instructional Resources

	*	*
	* The student will:	* Reference Material
Tracing Programs	*	* Text Book
	* 1)Trace several	*
	* Basic programs.	*
	*	*
Correcting logic	* 2)Correct errors	* Examples
	* In Basic code.	*
	*	*
Error Checking	* 3)Correct logic	*
	* errors in Basic	*
	* code.	*
	*	*
	* 4)Read assigned	*
	* text.	*
	*	* Teacher Information:
	*	* Program Samples
	*	*

The student will design a graphic project which uses programming discussed in class.

Objective: 2.13

The student will have an appreciation of computer graphics art.

Content Description* Enabling Activities* Instructional Resources

	* The student will:	* Reference Material
	*	*
Computer Art	* 1)Find and analyze	* Example Programs
Print	* three research	*
Print @	* articles dealing	* Library Journals
Print Using	* use of computers	*
Tab	* graphics.	*
Graphic Mode	*	*
Low Res	* 2)Design on graph	*
High Res	* paper a design for	*
	* the computer.	*
	*	*
	* 3)Write Basic code	* Teacher Information:
	* to implement design	* Computer Slide Show
	*	* Programs on TRS-80
	* 4)Have a working	* Film- "Can Computers
	* graphic program	* produce art.
	*	*
	*	*

The student will be able to summarize the computer careers available in today's society.

Content Description *Enabling Activities *Instructional Resources

Computer careers	* The student will: * 1)View film on * computer careers. * 2)Write an analysis * of the differences * between hardware * and software * careers. * 3)Review newspaper * clipping for what * kind of computing * people are most * needed.	* Reference Material: * Newspaper * Teacher Information: * Film- "Careers in * Computing"
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UNIT III

Home Computer Using
Computer Application
Software Usage

Usage.

Goal III: The student have an understanding of various computer applications.

Objective: 3.1

The student will analyze the effect of computers in the home.

Objective: 3.2

The student will identify five ways computers are being used in the home.

Content Description *Enabling Activities *Instructional Resources

Home Computer Use	* The student will:	* Reference Material:
	* 1)Write a review	* Library
	* of the film	
	* including all	
	* usages of computers	
	* in the home.	
	* 2)Read assigned	
	* text.	* Teacher Information:
		* Film- "Computers in
	* 3)Analyze two	* the Home"
	* articles and	
	* summarize in one	
	* page how they are	
	* using home	
	* computers.	

The student will participate in a debate dealing with the computer use in the field of medicine, education, art or crime.

Content Description *Enabling Activities *Instructional Resources

Computer
Applications

* The student will:

* Reference Material:
Library

* 1) Find five articles
* supporting the use
* of computer in
* their subject area
* and five articles
* against the use of
* computers.

* 2) Discuss the
* research findings
* in a five minute
* debate.

* 3) Analyze the
* findings of the
* and evaluate the
* results.

* Teacher Information:
* Personal Library

The student will be able to analyze current research sources on computer application in an area of interest to them.

Content Description *Enabling Activities *Instructional Resources

Computer Application*	* The student will: * 1)Develop a * research paper on * the use of * computers in the * student's own * interest area. * Minimum 5 pages * Minimum sources-7 * APA form * * 2) Give a five min. * presentation on the * findings of their * research study * * *	* Reference Material: * * Library * Personal Library * * * * * * Teacher Information: * Example Papers *
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The student will demonstrate the ability to use the word processor by producing a letter to the teacher.

Content Description *Enabling Activities *Instructional Resources

Wordprocessing	*	*
	* The student will:	* Reference Material:
	*	* ScriptsIt Manual
	* 1)Produce a letter	* Easy Writer Manual
	* to the teacher on	* Cut & Paste Manual
	* any one of the	*
	* three software	*
	* packages	*
	* demonstrated.	*
	*	* Teacher Information:
	*	* ScriptsIt
	*	* Easy Writer
	*	* Cut and Paste
	*	*

The student will be able to work through various software packages including Karel the Robot, Tasman, Logo tutorial, and Mathematics Drill and Practice.

Content Description *Enabling Activities *Instructional Resources

Computer Uses	* The student will:	* Reference Material:
Karel the Robot	* 1)Complete all	* Manuals
Tasman	* four of the	
Logo	* software	
Mathematics	* demonstrations.	
Drill		
		* Teacher Information:
		* Karel
		* Tasman
		* Logo
		* Mathematics

The student will be able to demonstrate the ability to use a spreadsheet package by producing a grade averager.

Content Description *Enabling Activities*Instructional Resources

Spreadsheets

- * The student will:
- * 1)Produce a grade
- * averaging program
- * using Visical or
- * PFS.
- *
- *
- *
- *
- *

- * Reference Material:
- * Manuals
- *
- *
- *
- * Teacher Information:
- * Visical
- * PFS
- *
- *